PAST 2007 NEWSLETTERS

April 2007

WELCOME TO THE EPA COMBINED HEAT AND POWER PARTNERSHIP NEWSLETTER

In This Issue:

PARTNER'S CORNER

EPA's CHP Partnership would like to welcome its newest partners, including:

- Carlson Small Power Consultants
- Caterpillar Financial Services Corporation
- Fuss & O'Neill, Inc
- Great River Energy
- Hannon Armstrong
- KEMA
- Recycled Energy Development
- Thermal Energy Corporation
- Vermont Department of Public Service

Please feel free to send us news items or updates that we can include in our newsletter. To view information about all of our Partners–or update your own profile–visit the Partner's page.

ENERGY STAR CHP AWARDS

EPA's CHP Partnership will be presenting ENERGY STAR CHP awards at this year's Fuel Ethanol Workshop, June 25-27, 2007, in St. Louis, Missouri, to several ethanol refineries that utilize highly efficient CHP systems. The Partnership will also be giving a presentation on utility-ethanol facility partnerships and hosting a booth on CHP for ethanol facilities.

The CHP Partnership is proud to recognize the most recent recipients of the ENERGY STAR CHP Award–Kent State University and Princeton University–presented at the International District Energy Association's 2007 Campus Energy Conference.

- **ENERGY STAR Award Recipient: Kent State University**
  The Kent State University CHP plant is permitted as a working lab and offers tours and explanations of its equipment and programming. The 13 megawatt (MW) natural gas-fired combustion turbine CHP system produces almost 90 percent of the university's electric power during the winter months and 60 percent of its electric power during the summer months. The CHP system also provides half of the university's steam demand by utilizing waste heat from the turbines that would otherwise be released to the atmosphere.

- **ENERGY STAR Award Recipient: Princeton University**
  The Princeton University 15 MW natural gas-fired CHP system produces all of the steam, all of the chilled water, and approximately half of the electric power used by the campus and its roughly 7,000 students. The university utilizes a state of the art, real-time, economic dispatch system to optimize operation of the CHP system and further minimize energy costs.

For more information about ENERGY STAR CHP Awards, including the application process and qualificiations, please visit the CHP Partnership's Awards Web page.

PARTNER RESOURCES

CHP at Wastewater Treatment Facilities

The CHP Partnership is excited to announce the release of its latest market assessment report: "Opportunities for and Benefits of Combined Heat and Power at Wastewater Treatment Facilities." CHP is a reliable, cost-effective option for WWTFs with anaerobic digesters. The biogas flow from digesters can be used as "free" fuel to generate electricity and power in a CHP system, while the heat produced by the CHP system can be used to keep the digester at optimal temperature and to heat nearby facilities.

Benefits of CHP for WWTFs include:

- The production of onsite, reliable power at a cost below retail electricity.
- Lower fuel costs for the facility.
- Qualification as a renewable fuel under most green power programs.

The CHP Partnership estimates that for each 4.5 million gallons of wastewater processed per day (MGD) by a WWTF with an anaerobic digester, the generated biogas can produce approximately 100 kilowatts (kW) of electricity. If all 544 WWTFs in the United States with anaerobic digesters and flow rates greater than 5 MGD installed CHP systems, approximately 340 MW of clean electricity could be generated, offsetting 2.3 million metric tons of carbon dioxide emissions annually–equivalent to planting approximately 640,000 acres of forest, or the emissions of approximately 430,000 cars.

Project developers, WWTF operators, and other parties who are interested in exploring the benefits of CHP for a WWTF should find this guide useful. Some key features of the guide include:

- The size and location of facilities that have the greatest potential for employing cost-effective CHP.
- Rules of thumb for estimating a CHP system's potential electricity and thermal outputs based on wastewater flow rate.
- The emission reduction benefits associated with CHP at WWTFs.
- The cost-effectiveness of CHP at WWTFs.
- Strategic issues involved with employing CHP at WWTFs.
- Detailed appendices with facility-specific information by state.

For more information on the benefits and technical fit for CHP at WWTFs, visit the CHP for Wastewater Treatment Facilities Web page or contact Tom Frankiewicz (frankiewicz.thomas@epa.gov).

CONFERENCES

WEFTEC 2007, October 13-17, 2007, San Diego, California

WEFTEC is the largest water quality event in the United States. It brings together thousands of water and wastewater professionals to discuss the newest water quality research, technology, and services. Attendees typically include project developers, facility operators, researchers, equipment manufacturers, and others.

The CHP Partnership will be attending the conference and presenting information about CHP opportunities at wastewater treatment facilities, along with collaborators New York State Energy Research and Development Authority (NYSERDA) and the California Energy Commission. More information can be found on the conference Web site EXIT Disclaimer.

FUNDING OPPORTUNITIES

The following are new or updated CHP and biomass/biogas funding opportunities since the CHP Partnership's last newsletter. More extensive information can be found in our funding opportunities database.

New Funding Opportunities

- USDA - Energy Efficiency and Renewable Energy Grant & Loan Program
  Applies to: wind, solar, biomass, geothermal; hydrogen derived from these renewables; energy efficiency improvements
  Total Funding: $176.5 million in loan guarantees and $11.4 million in grants
  Start Date: 3/21/2007
  Application Due Date: postmarked by 5/18/07 for grants; 7/2/07 for loans and combined grant and loan applications

- USDA - Conservation Innovation Grants, for NJ, UT, and CO
  Applies to: innovative conservation approaches and technologies
  NJ Funding: $250,000 is expected to be available; UT Funding: $450,000 is expected to be available; CO Funding: $800,000 is expected to be available
  Application Due Date: varies by state

- NYSERDA - Next Generation Emerging Technologies for Residential Buildings PON 1126
  Applies to: energy efficiency improvements, including micro CHP systems
  Total Funding: $1.5 million
  Start Date: 3/22/2007
  Due Date: 5/31/07 for Round 1; 9/20/07 for Round 2

- NYSERDA - Peak Load Reduction Program
  Applies to: PV, wind, fuel cells, other DG technologies
  Total Funding: $37 million; maximum funding per contractor limited to $5 million; total incentives per facility cannot exceed $1 million
  Expiration Date: 3/31/2008

Modified or Reauthorized Incentives (new funds committed)

- California Energy Commission - Energy Innovations Small Grant Program
  Funding Round Start Date: April 3, 2007
  End Date: May 31, 2007

- Pennsylvania Energy Development Authority (PEDA) - Grant Program
  Total Funding: $10 million; maximum individual grant amount: $1 million
  Start Date: 3/1/2007 (estimated)
  End Date: 6/15/2007; however, funding is typically made available every year

- Pennsylvania Department of Environmental Protection - Energy Harvest Grant Program
  Start Date: 3/1/2007 (estimated)
  End Date: 6/15/2007; however, funding is made available on a yearly basis

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February 2007

WELCOME TO THE EPA COMBINED HEAT AND POWER PARTNERSHIP NEWSLETTER

In This Issue:

News

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News

Welcome to Our Six Newest Partners

The Combined Heat and Power (CHP) Partnership welcomes the newest Partners who have recently joined our ranks! As always, company and contact information for all of our Partners can be found on the CHP Partners page of our Web site.

- E-Power Inc. (CHP Project Developer)
- Ferrellgas (Utility)
- Great River Energy (Utility)
- HBH Gas Systems (Utility)
- Kinergetics LLC (Consultant/Engineering)
- U.S. Power Production LLC (CHP Project Developer)

CHP Partnership Web Site Reorganization

The CHP Partnership is currently reorganizing and improving our Web site! In order to better serve our Partners' needs, we are adding new CHP project development information, rearranging site navigation, and highlighting Partner success stories. The Web site is scheduled for completion in early April.

Some of the new Web site features that our Partners can look forward to include:

- Additional information and links for streamlining the CHP development process.
- New materials on monetizing the environmental benefits derived from CHP projects.
- A newly created publications page that lists all CHP Partnership market analyses, fact sheets, and white papers in one place.
- Simplified Web site navigation.
- A reorganized and enhanced CHP funding database.

Though most content on the current Web site will remain unchanged in the coming months as we complete this transition behind the scenes, we will continue to update the funding database on a bi-weekly basis so that no CHP funding opportunities will be missed by our CHP Partners. We look forward to announcing the unveiling of the new Web site in the spring!

EPA AgStar Releases New Protocol on Anaerobic Digesters

The U.S. EPA issued a new protocol last week to help standardize the process used to evaluate the performance of anaerobic digestion systems. Anaerobic digestion is a controlled process to produce methane from livestock manure or other biosolids waste. The methane can then be burned as a heat source or used to generate electricity.

The new EPA protocol describes proper data collection methods to assess the performance of anaerobic digesters and establishes a uniform method for evaluating a project's operational reliability and economic viability. Intended for use by livestock producers, state agencies, project developers, and other involved parties, the protocol is intended to provide reliable, standardized information to system developers, the investment community, and farmers and ranchers.

Waste methane recovery systems, also known as anaerobic digestion systems, are estimated to be feasible at about 7,000 dairy and swine operations, in addition to more than 500 wastewater treatment facilities in the United States. Because methane is more than 20 times as potent as carbon dioxide at trapping heat in the atmosphere, capturing the biogas provides significant environmental benefits. Additionally, farmers and project developers can increase their incomes by using biogas for on-site electricity generation or delivery to a local electric utility.

The standardized guidance was developed jointly by EPA's AgStar program, the Association of State Energy Research and Technology Transfer Institutions EXIT Disclaimer, and U.S. Department of Agriculture EXIT Disclaimer. AgStar is a voluntary program that encourages the use of waste methane recovery systems on dairy and swine farms.

To download the new *Protocol for Quantifying and Reporting the Performance of Anaerobic Digestion Systems for Livestock Manures*, visit the AgStar Web site.

Texas Launches New CHP Initiative

The Texas CHP Initiative (TXCHPI) will champion the use of CHP technologies for the state's energy security, especially during hurricanes and other states of emergency. Members of the CHP initiative will promote CHP across market segments to increase awareness of the advantages of planning CHP into new construction, as well as the renovation and upgrade of existing facilities. These activities will include meeting with elected officials to advocate for policy changes that recognize the benefits of CHP technology for the state. Texas already possesses approximately 30 percent of the nation's CHP capacity (16,000 megawatts) and the initiative will promote a doubling of that number by 2015. For more information, please visit the TXCHPI Web site EXIT Disclaimer or contact Rich Herweck (RichHerweck@SiEnergy.com), TXCHPI Executive Director, at (972) 979-4737.

Biomass Energy Resource Center Is Seeking an Executive Director

The Biomass Energy Resource Center (BERC), based in Montpelier, Vermont, is seeking a skilled executive director to build on our exceptional work in establishing renewable energy projects that use sustainable biomass resources for environmental benefit and community economic development. BERC is a small but rapidly growing Vermont non-profit founded in 2000 with a mission to achieve a healthier environment, strengthen local economies, and increase energy security across the United States through the development of renewable, sustainable biomass energy systems at the community level. BERC's particular focus is on community-scale energy initiatives—schools, institutions, campuses and community developments—that use biomass to produce heat and electricity.

Reporting to the board of directors, the executive director will provide leadership to the organization, manage its day-to-day affairs, and work with the board and staff to chart the future direction of the organization. The position does not require a technical background in biomass or renewable energy, but an understanding of renewable energy issues, policies, and opportunities, especially at the institutional and community level, is highly desirable. To see the complete job posting and to learn more about the organization, please visit the BERC Web site EXIT Disclaimer.

Two Upcoming Conferences

For a list of CHP-related conferences and workshops coming to your area, visit the Workshops and Conferences section of the CHP Partnership Web site.

- **International District Energy Association (IDEA) 20th Annual Campus Energy Conference, February 27, 2007, Houston, Texas**

  CHP for Universities, Utility Leaders, and Other Large Facilities

  Attendees at the IDEA 20th Annual Campus Energy Conference will have an opportunity to exchange experiences related to providing best-in-class university energy services. Presentations and panel discussion topics will include: master planning, combined heat and power, thermal storage and operational techniques, and others. At the IDEA Conference, the **CHP Partnership** will present a new report on environmental revenue streams for CHP projects and will also present ENERGY STAR CHP Awards to this year's recipients.

If you are involved in a university or campus CHP project and are interested in applying for an ENERGY STAR Award, please review and submit the application available online at the CHP Partnership Awards/Certificates Web page.

For more details and to register, visit IDEA's Web site EXIT Disclaimer.

- **Renewable Fuels Association (RFA) 12th Annual National Ethanol Conference: Building New Horizons, February 19-21, 2007, Tucson, Arizona**

  CHP Potential in the Ethanol Industry

  Hailed as the "premier event in which industry leaders and experts meet to discuss and shape the future of the U.S. ethanol industry," the Renewable Fuels Association 12th Annual Conference is expected to host around 2,000 attendees in 2007. The conference centers on policy that affects the ethanol industry, such as the renewable fuels standard, as well as technological improvements for current ethanol facilities.

  For more details and to register, visit RFA's Web site EXIT Disclaimer.

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January 2007

WELCOME TO THE EPA COMBINED HEAT AND POWER PARTNERSHIP NEWSLETTER

Happy New Year! As we have closed 2006 and started 2007, we have much to look forward to in the New Year. The CHP Partnership would also like to share a few timely funding opportunities that are currently accepting applications.

The Partnership would like to first thank our Partners for all their great work this past year. Even in a challenging market, our Partners are implementing exciting new CHP projects across the country and applying innovative CHP technology to new business sectors on an ongoing basis.

We would also like to thank everyone who reported their CHP projects to us thus far. The Partnership will be sending out Partner Greenhouse Gas Reports in the coming months, which note your company's accomplishments over both the past year and on a cumulative basis since joining the Partnership. If you have not yet reported your projects for 2006, please do so as soon as possible!

Finally, a few things to look forward to in 2007:

- The IDEA Campus Energy Conference, February 27, 2007, in Houston, Texas. The CHP Partnership will be presenting a new report on environmental revenue streams for CHP projects and will also present ENERGY STAR CHP Awards to this year's recipients.

  If you are involved in a university or campus CHP project and are interested in applying for an ENERGY STAR Award, please review and submit the application available online at: http://www.epa.gov/chp/public-recognition/awards.html#howtoapply.

- A newly revised CHP Partnership Web site will be launched early next spring that will include: new CHP reports covering topics such as: the reliability and economic benefits of CHP, new funding opportunities for CHP and biomass technology, and an added section on renewably fueled CHP!

- A new report titled, *Opportunities and Benefits of Combined Heat and Power at Wastewater Treatment Facilities* will be released by the CHP Partnership in early 2007. The report assesses the nationwide potential for CHP at wastewater treatment facilities that have anaerobic digesters.

- A new report called the *Biomass Combined Heat and Power Guidebook* will be distributed by the CHP Partnership. The Biomass Guidebook describes biomass resources, preparation methods, and performance characteristics of various biomass and CHP technologies.

Thank you all for a great year. We look forward to working with you in 2007.

New Funding Opportunities

DOE "Save Energy Now" Accepting Applications

The U.S. Department of Energy (DOE) is now accepting online applications for industrial Energy Savings Assessments (ESAs). DOE will make initial selections of applications for ESAs in late

November 2006. Additional selections will be announced periodically until the target of 250 assessments is reached for the calendar year 2007. The program is a great way to achieve significant energy savings with minimal capital investment through process changes or improvements and more efficient use of electrical and thermal energy.

Save Energy Now is part of a national campaign, "Easy Ways to Save Energy," announced by DOE in 2005. Through Save Energy Now, DOE's Industrial Technologies Program helps industrial plants operate more efficiently and profitably by identifying ways to reduce energy use in key industrial process systems. An ESA identifies immediate and long-term opportunities to save energy and money in your plant, focusing on steam, process heating, compressed air, fan, or pumping systems. If your company is selected for an assessment, an ESA Energy Expert will work with you on site to identify savings opportunities. Answers to frequently asked questions are available at: http://www1.eere.energy.gov/industry/saveenergynow/faqs.html EXIT Disclaimer.

The application period is now closed.

Connecticut Energy Advisory Board: RFP for Alternatives to Two Proposed Substations

The Connecticut Energy Advisory Board (CEAB) has issued requests for proposals (RFPs) for energy resource alternatives to the construction of two 115 kilovolt (kV) bulk substation facilities in the towns of Oxford and Guilford, Connecticut. The two RFPs seek proposals for any projects that can add additional local supply sources or reduce load within the targeted geographic area, including grid-based and customer-based distributed resources, such as CHP, energy efficiency, or other load reduction options.

Based only on a preliminary review of the substation facility application for Oxford, CEAB estimates that approximately 35 to 40 MW of ongoing local load reduction or additional local supplies in Beacon Falls, Southbury, and Naugatuck, phased in between 2008 and 2012, would defer the need for the proposed Oxford substation for roughly six years. Based only on a preliminary review of the substation facility application for Guilford, the CEAB estimates that approximately 44 MW of ongoing local load reduction or additional local supplies in the Guilford area, phased in between 2007 and 2012, could serve as a comprehensive alternative to the proposed Guilford substation.

All proposals must be received at the offices of the CEAB on February 27, 2007. Any requests to hold a Bidders' Conference are due by January 12, 2007.

The RFPs can be accessed from the home page of CEAB's Web site at: http://www.ctenergy.org EXIT Disclaimer. Please refer to the Board's preferential criteria when preparing your proposal.

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